

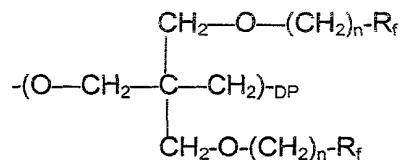
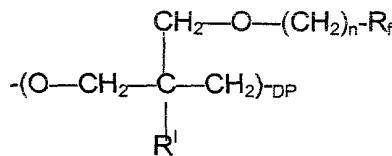
WHAT IS CLAIMED IS:

1. A polymeric composition comprising:

at least one polyoxetane block connected to at least one hydrocarbon

5 block,

said polyoxetane block having repeat units of the formula



10 where  $\text{R}^1$  is hydrogen or an alkyl having from 1 to 6 carbon atoms,  $n$ , independently, is from 1 to 6, DP is from about 2 to about 100, and wherein

15  $\text{R}_f$  is (a) the same for each said DP repeat unit and is a fluorinated aliphatic having from 1 to about 20 carbon atoms, or

(b) at least two different fluorinated aliphatics with respect to said individual DP repeat units and, independently, has from about 2 to about 30 carbon atoms, and

20 wherein said (a) and said (b)  $\text{R}_f$ , independently, has at least 50 percent of the hydrogen atoms of said aliphatic replaced by a fluorine atom; and

said at least one hydrocarbon block comprising

an olefin polymer or copolymer derived from at least one olefin monomer having from 2 to about 8 carbon atoms; or

25 a hydrogenated diene polymer or copolymer derived from at least one conjugated diene monomer having from 4 to about 10 carbon atoms.

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2. A polymeric composition according to claim 1, wherein when said  $R_f$  is different, said different  $R_f$  groups, independently, is an alkyl having from 4 to 24 carbon atoms, wherein when said  $R_f$  is the same said  $R_f$  is an alkyl having from 3 to about 15 carbon atoms, and wherein said  $R_f$  groups, independently, contain at least 75 percent of the alkyl hydrogen atoms replaced by a fluorine atom.

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3. A polymeric composition according to claim 2, wherein  $n$ , independently, is from 1 to about 4, wherein DP is from about 3 to about 50, wherein said olefin block polymer or copolymer has a number average molecular weight of from about 200 to about 4,000, and wherein said hydrogenated diene block polymer or copolymer has a number average molecular weight of from about 500 to about 15,000.

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4. A polymeric composition according to claim 3, wherein said  $R_f$  groups, independently, contain at least 90 percent of the hydrogen atoms replaced by a fluorine atom, and wherein said olefin block polymer or copolymer is derived from olefin monomers having 2 or 3 carbon atoms.

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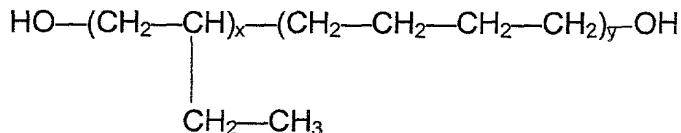
5. A polymeric composition according to claim 4, wherein  $n$ , independently, is 1 or 2, wherein  $R^l$  is hydrogen or methyl, and wherein said  $R_f$  is different, independently, the number of carbon atoms therein is from about 6 to about 20.

20

6. A polymeric composition according to claim 5, wherein said DP is from about 3 or about 4 to about 10 or about 20, wherein said hydrocarbon block connected to said polyoxetane block is said hydrogenated diene block polymer or copolymer, and wherein said conjugated diene polymer or copolymer has a number average molecular weight of from about 1,000 to about 8,000.

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7. A polymeric composition according to claim 6, wherein said hydrogenated butadiene block copolymer has the structure



5 wherein the ratio of said x group to said y groups is from about 0.10 to about 10.

8. A polymeric composition according to claim 7, wherein said  $R_f$  is perfluorinated.

10 9. A polymeric composition comprising a blend of a polyolefin and the composition of claim 1.

15 10. A polymeric composition comprising a blend of a polyolefin and the composition of claim 3, wherein said polyolefin is derived from one or more olefin monomers having from 2 to 6 carbon atoms.

20 11. A polymeric composition comprising a blend of a polyolefin and from about 0.1 to about 10 parts by weight per 100 parts by weight of the composition of claim 5, and wherein said polyolefin is derived from an olefin monomer having 2 or 3 carbon atoms, or combinations thereof.

25 12. A polymeric composition comprising a blend of a polyolefin and from about 0.5 to about 3.0 parts by weight per 100 parts by weight of the composition of claim 7, and wherein said polyolefin is derived from an olefin monomer having 2 or 3 carbon atoms, or combinations thereof.

13. A fiber comprising a blend of a polyolefin and the composition of  
claim 1.

5 14. A fiber comprising a blend of a polyolefin and the composition of  
claim 3, wherein said polyolefin is derived from one or more olefin monomers  
having from 2 to 6 carbon atoms.

10 15. A fiber comprising a blend of a polyolefin and from about 0.1 to  
about 10 parts by weight per 100 parts by weight of the composition of claim 5,  
and wherein said polyolefin is derived from an olefin monomer having 2 or 3  
carbon atoms, or combinations thereof.

15 16. A fiber comprising a blend of a polyolefin and from about 0.5 to  
about 3.0 parts by weight per 100 parts by weight of the composition of claim 7,  
and wherein said polyolefin is derived from an olefin monomer having 2 or 3  
carbon atoms, or combinations thereof.

20 17. A fabric comprising a fiber of claim 13.

20 18. A fabric comprising a fiber of claim 14.

20 19. A fabric comprising a fiber of claim 15.

20 20. A fabric comprising a fiber of claim 16.

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21. A grafted polymer comprising:

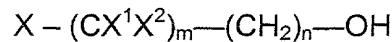
a) a maleated polyolefin derived from at least one olefin monomer  
having from 2 to about 8 carbon atoms, said maleated polyolefin having a plurality  
of maleated sites, or

b) a maleated polymer derived from at least one vinyl substituted aromatic monomer having from 8 to about 12 carbon atoms, said maleated polymer having a plurality of maleated sites, and

5 a fluorinated compound grafted to at least one of said maleated sites of  
said a) maleated polyolefin or said b) maleated polymer, said fluorinated compound derived from the reaction of a fluorinated alcohol and an amino dicarboxylic acid.

10 22. A grafted polymer according to claim 21, wherein said a) maleated polyolefin is derived from an olefin monomer having 2 carbon atoms, or 3 carbon atoms, or combinations thereof, and wherein said b) maleated polymer is derived from styrene,  $\alpha$ -methylstyrene, or combinations thereof.

15 23. A grafted copolymer according to claim 22, wherein said fluorinated alcohol has the formula



wherein X is H or F, wherein  $X^1$ , independently, is H or F for each repeat unit, wherein  $X^2$ , independently, is H or F for each repeat unit, with the proviso that at least one of said X, said  $X^1$  or said  $X^2$  is F; wherein m is from 2 to about 30, and wherein n is from about 1 to about 6.

20 24. A grafted polymer according to claim 23, wherein said amino dicarboxycyclic acid is glutamic acid, aspartic acid, or combinations thereof.

25 25. A grafted polymer according to claim 24, wherein in said fluorinated alcohol X is F,  $X^1$  is F, and  $X^2$  is F, wherein m is from about 6 to about 20, and wherein n is from 1 to about 4. .

26. A polymeric composition comprising a blend of a polyolefin derived from olefin monomers having from 2 to about 8 carbon atoms and the composition of claim 21.

5 27. A polymeric composition comprising a blend of a polyolefin derived from olefin monomers having 2 or 3 carbon atoms or combinations thereof, and the composition of claim 23.

10 28. A polymeric composition comprising a blend of a polyolefin derived from olefin monomers having 2 or 3 carbon atoms or combinations thereof, and the composition of claim 25.

15 29. A fiber comprising a blend of a polyolefin derived from olefin monomers having from 2 to about 8 carbon atoms and the composition of claim 21.

20 30. A fiber composition comprising a blend of a polyolefin derived from olefin monomers having 2 or 3 carbon atoms or combinations thereof and the composition of claim 23.

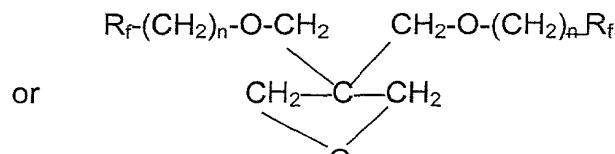
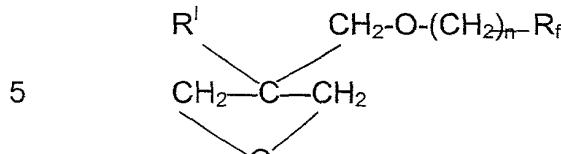
25 31. A fiber composition comprising a blend of a polyolefin derived from olefin monomers having 2 or 3 carbon atoms or combinations thereof and the composition of claim 25.

32. A fabric comprising a fiber of claim 29.

33. A fabric comprising a fiber of claim 30.

34. A fabric comprising a fiber of claim 31.

35. A fluorine-containing block copolymer composition, comprising:  
the reaction product of a plurality of oxetane monomers having the  
formula



1A

1B

where R' is hydrogen or an alkyl having from 1 to 6 carbon atoms, n, independently, is from 1 to 6, and wherein

10 R<sub>f</sub> is a) the same for each monomer of Formula 1A or Formula 1B and is a fluorinated aliphatic having from 1 to about 20 carbon atoms, or

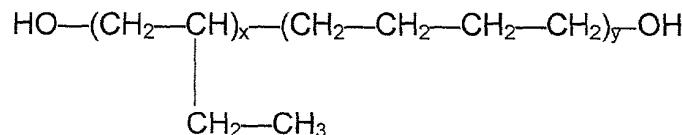
b) at least two different fluorinated aliphatics having said Formula 1A or Formula 1B and, independently, has from about 2 to about 30 carbon atoms,

15 with a mono or polyhydroxyl terminated hydrocarbon polymer comprising: an olefin polymer or copolymer derived from at least one olefin monomer having from 2 to about 8 carbon atoms; or a hydrogenated diene polymer or copolymer derived from at least one conjugated diene monomer having from 4 to about 10 carbon atoms.

20 36. A fluorine-containing block copolymer composition according to  
claim 35, wherein when said R<sub>f</sub> is different said different R<sub>f</sub> groups, independently,  
is an alkyl having from 4 to 24 carbon atoms, wherein when said R<sub>f</sub> is the same  
said same R<sub>f</sub> is an alkyl having from 3 to about 15 carbon atoms, and wherein  
said R<sub>f</sub>, independently, contain at least 75 percent of said alkyl hydrogen atoms  
25 replaced by a fluorine atom.

37. A fluorine-containing block copolymer composition according to claim 36, wherein at least 75 percent of the hydrogen atoms of said  $R_f$  alkyl group is replaced by a fluorine atom.

5           38. A fluorine-containing block copolymer composition according to claim 37, wherein  $n$ , independently, is 1 or 2, wherein  $R^1$  is hydrogen or methyl, and wherein when said  $R_f$  is different, independently, the number of carbon atoms therein is from about 6 to about 20, and wherein said hydrogen carbon polymer is said hydrogenated butadiene block copolymer and has the structure



wherein the ratio of said  $x$  group to said  $y$  groups is from about 0.10 to about 10.

15           39. A fluorine-containing block copolymer composition according to claim 38, wherein said reaction product is a diblock or a triblock copolymer, wherein said hydrogenated diene block copolymer has a number average molecular weight of from about 1,000 to about 8,000.

20           40. A fluorine-containing block copolymer composition according to claim 39, wherein said  $R_f$  is perfluorinated, and wherein  $x$  of said hydrogenated butadiene block copolymer is about 2 and wherein said  $y$  is about 8.

25           41. A fiber comprising a blend of a polyolefin and a composition of claim 35.

42. A fiber comprising a blend of a polyolefin and the composition of claim 37, wherein said polyolefin is derived from one or more olefin monomers having from 2 to 6 carbon atoms.

5           43. A fiber comprising a blend of a polyolefin and from about 0.1 to about 10 parts by weight per 100 parts by weight of the composition of claim 39, and wherein said polyolefin is derived from an olefin monomer having 2 or 3 carbon atoms, or combinations thereof.

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